



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,509	04/14/2005	Laurent Regnier	S1022.81235US00.	8444
46329	7590	02/06/2008		
STMicroelectronics Inc. c/o WOLF, GREENFIELD & SACKS, P.C. 600 Atlantic Avenue BOSTON, MA 02210-2206			EXAMINER CRIBBS, MALCOLM D	
			ART UNIT	PAPER NUMBER
			2115	
			MAIL DATE	DELIVERY MODE
			02/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

AK

Office Action Summary	Application No. 10/531,509	Applicant(s) REGNIER, LAURENT	
	Examiner Malcolm D. Cribbs	Art Unit 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12 and 14 is/are rejected.
- 7) ☒ Claim(s) 6 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-14 are presented for examination.

5

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

10

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15

Claims 1-5, 7-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allan et al [Patent No. US 4,200,928] in view of Huand et al [Patent No. US 5,267,246].

As per claim 1, Allan teaches the invention comprising:

20

after or before transmission of at least one specific digital message associated with a specific event, transmitting a correlation message comprising a counter of a number of instructions executed by the microprocessor between the instruction associated with the transmission of said specific message and the instruction associated with the transmission of a selected previous message [wherein a correlation message [pre-data-transfer instruction] associated with an event [interrupt] indicating the duration of the interrupt thus indicating the number of cycles or instructions for each data block between the up-coming interrupt and a previous or next interrupt; Col 2 line 64 – Col 3 line 15].

25

Allan does not teach a method of the correlation message [pre-data-transfer instruction] comprising an identifier of the specific digital message associated with an event [interrupt].

5

Huand teaches another method of handling interrupts wherein more than one type of interrupt can be processed. Thus, in order to identify the one or more interrupts received Huand sends an identifier [data with the interrupt indicating the type of interrupt received; Col 7 lines 65-68].

10

It would have been obvious to one of ordinary skill of the art having the teachings of Allan and Huand at the time the invention was made, to modify the interrupt correlation message of Allen to include the ability to identify the type of interrupt as taught by Huand. One of ordinary skill in the art would be motivated to make this combination of including the identifier in view of the teachings of Huand, as doing so would give the added benefit of reducing the amount of time needed to service the interrupt by not having to determine the source or type of the interrupt and also the flexibility to service a plurality of interrupts.

15

20 **As per claim 2**, Allan teaches the invention in which the selected previous digital message is the immediately preceding specific digital message [wherein the duration is the length of the interrupt until the next interrupt begins; Col 2 line 64 – Col 3 line 15].

As per claim 3, Huand teaches the invention in which the correlation message comprises a correlation message identifier [Col 7 lines 65-68].

As per claim 4, Allan teaches the invention in which the specific digital message
5 is representative of a data read or write instruction [Col 1 lines 10-14].

As per claim 5, Allan teaches the invention in which the specific digital message is representative of an event independent from the execution of an instruction by the microprocessor [Col 2 line 58 – Col 3 line 15].

10

As per claim 7, it is directed to a device to implement the method of steps as set forth claim 1. Therefore, it is rejected on the same basis as set forth hereinabove.

As per claims 8-12, and 14, it is directed to a system to implement the method
15 of steps as set forth in claims 1-5. Therefore, it is rejected on the same basis as set forth hereinabove.

Allowable Subject Matter

Claims 6 and 13 are objected to as being dependent upon a rejected base claim,
20 but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

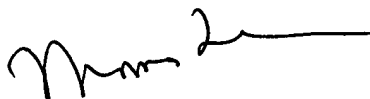
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malcolm D. Cribbs whose telephone number is 571-272-5689. The examiner can normally be reached on M-F 8AM-430PM.

5 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for
10 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
15 USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Malcolm D Cribbs
Examiner
Art Unit 2115



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

February 2, 2008